ABOUT THIS HANDBOOK

The Registration, Policies, & Information Handbook (RP&IH) is intended to be a guidance document for the technician or laboratory for the Transportation Technician Qualification Program (TTQP) policies and procedures. It is, however, the responsibility of the technician to remain up to date on all matters pertaining to the program. If you have questions about either program, contact the appropriate Agency person listed in this Handbook.

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LIST OF ABBREVIATIONS

AgTT	Aggregate Testing Technician
AKDOT & PF	Alaska Department of Transportation & Public Facilities
AQC	Agency Qualification Committee
AsTT	Asphalt Testing Technician
CDOT	Colorado Department of Transportation
CFLHD	Central Federal Lands Highway Division
CTT	Concrete Testing Technician
DTT	Density Testing Technician
EBTT	Embankment & Base Testing Technician
FHWA	Federal Highway Administration
HDOT	Hawaii Department Of Transportation
ITD	Idaho Transportation Department
LQP	Laboratory Qualification Program
MDT	Montana Department of Transportation
NDOT	Nevada Department of Transportation
NMDOT	New Mexico Department of Transportation
ODOT	Oregon Department of Transportation
QAC	Qualification Advisory Committee
RP & IH	Registration, Policies & Information Handbook
TxDOT	Texas Department of Transprotation
TTQP	Transportation Technician Qualification Program
UDOT	Utah Department of Transportation
WAQTC	Western Alliance for Quality Transportation Construction
WFLHD	Western Federal Lands Highway Division
WSDOT	Washington Department of Transportation

WESTERN ALLIANCE FOR QUALITY TRANSPORTATION CONSTRUCTION (WAQTC)

INTRODUCTION

The Western Alliance for Quality Transportation Construction (WAQTC), is comprised of the States of Alaska, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, and Washington, and the Western & Central Federal Lands Highway Division (WFLHD & CFLHD) of the Federal Highway Administration This organization is dedicated to improving the quality of the transportation products and services.

MISSION STATEMENT

Provide leadership in the pursuit of continuously improving quality in transportation construction.

Through our partnership, we will:

- promote an atmosphere of trust, cooperation, and communication between government agencies and the private sector
- respond in a unified and consistent manner to identified quality improvement needs and new technologies that impact the products that we provide
- provide a forum to promote uniform test standards
- provide highly skilled, knowledgeable materials sampling and testing technicians
- provide reciprocity for Qualified testing technicians between accredited Agencies

PURPOSE OF THE WAQTC

The WAQTC is comprised of at least one representative of each of the member Agencies. WAQTC is focused in three main areas. Standardizing test methods (WAQTC, AASHTO, & ASTM), accreditation of the Transportation Technician Qualification Program (TTQP), and working together on national programs of significant including research, training, technology deployment.

BENEFITS OF MEMBERSHIP

Cost savings
Partnering
Savings to contractors and consultants working in more that one state
Sharing resources human, tech, financial
Reducing wasteful duplication

ORGANIZATIONAL STRUCTURE

- Executive Committee
    - Contributing Member
        - Accredited Contributing Members
    - Advisory member
    - Guest
- Transportation Qualification Program (TTQP) Committees
    - Qualification Advisory Committee (QAC)
    - Agency Qualification Committee (AQC)

EXECUTIVE COMMITTEE

The Executive Committee is comprised of at least one representative of each of the member Agencies of the WAQTC. This committee is responsible for the mission, objectives, structure, policy decisions, the direction of the WAQTC, and other programs as may be undertaken in the future. Operational guidance for this committee can be found in the WAQTC Bylaws, Appendix A.

• ACCREDITED CONTRIBUTING MEMBERS

Agencies that have agreed to follow the standards of the TTQP accreditation program will have the status of Accredited Contributing Membership on the Executive Committee. These member agency representatives shall have a single vote on all operational matters of the TTQP. Further guidelines can be found in the TTQP operational agreement, Appendix B.

TTQP QUALIFICATION ADVISORY COMMITTEE

The Qualification Advisory Committee (QAC) is the committee that has the principal task of overseeing technical portions of the TTQP. The QAC acts in an advisory capacity to the Executive Committee and reports directly to them. The QAC reviews the program and suggests changes or updates and ensures that the program continues to meet the highest standards. Additional information is contained in the TTQP Operating Agreement, Appendix B.

AGENCY QUALIFICATION COMMITTEE

The Agency Qualification Committee (AQC) is the Agency level committee that is responsible for oversight of the TTQP within the Agency to ensure a region wide consistency in the implementation of the program. The Chairman of the committee is an Agency employee.
The type, size, and makeup of the committee is the Agency's discretion. Members of the AQC are

knowledgeable in the administrative procedures of the TTQP. The AQC may provide comments and suggestions to the QAC, may review, compile, and provide comments obtained from the course evaluations to the QAC, may hear and act on allegations of technician misconduct, or may act upon other such matters required for the efficient operation of the program within the Agency.

REPRESENTATIVES AND CONTACT POINTS

WAQTC Executive Committee

Michael San Angelo - AKDOT&PF	John Tenison - NMDOT
Richard Duval - CFLHD	Jeff Gower - ODOT
Tim Aschenbrener - CDOT	David Belser - TxDOT
JoAnne Nakamura - HDOT	Tim Biel - UDOT
Jeff Miles - ITD	Tom E. Baker - WSDOT
Garth Newman - ITD	Howe Crockett - WFLHD
Jeffery Rayman - MDT	
Mark Elicegui - NDOT	

TTQP Agency Contacts

Alaska	Gregory Christensen Phone: (907) 269-6248	**Nevada**	Mark Elicegui Phone: (775) 888-7460
CFLHD	Richard Duval Phone: (303) 716-2188	**New Mexico**	John Tenison Phone: (505) 827-9811
Colorado	Alan Hotchkiss Phone: (303) 757-9981	**Oregon**	Sean Parker Phone: (541) 686-7976
Hawaii	JoAnne Nakamura Phone: (808) 832-3553	**Utah**	Bryan Lee Phone: 801-965-4065
Idaho	Garth Newman Phone: (208) 334-8039	**Washington**	Tom E. Baker Phone: (360) 709-5401
Montana	Jeffery Rayman Phone: (406) 444-5784	**WFLHD**	John Snyder or Howe Crockett Phone: (360) 696-7898 or 7750

Current course or qualification information, Qualified Technician and Testing Laboratory Registries, updates, and other useful information can be accessed at**:** **www.waqtc.org** or by contacting the respective Agencies at the listed numbers.

TRANSPORTATION TECHNICIAN QUALIFICATION PROGRAM (TTQP)

PURPOSE OF THE TTQP

The Transportation Technician Qualification Program (TTQP) portion of the Administrative Manual contains uniform program policies and guidance for Agencies of the Western Alliance for Quality Transportation Construction (WAQTC). Agencies are expected to adhere to the content of this manual in order to maintain accreditation while creating uniformity and program integrity. Agencies are not authorized to make changes to content, unless specifically stated in this manual.

The purpose of this Qualification program is to provide improved quality in the transportation products that we provide. One means of accomplishing this is by ensuring that individuals have demonstrated abilities to engage in quality assurance activities (quality control, acceptance, & independent assurance) in transportation construction work under the jurisdiction of WAQTC contracting Agencies and that laboratories that perform Agency work meet an acceptable level of performance. Unless otherwise specified in the contract documents all WAQTC members that are contracting Agencies will require that technicians who perform Agency contract work will have successfully completed the Transportation Technician Qualification Program, and laboratories that perform sampling and testing on Agency projects will have been Qualified by a Laboratory Qualification Program in their respective States.

This program is prescribed to meet, in part, the requirements of The Code of Federal Regulations 637, Subpart B - Quality Assurance Procedures for Construction.

TTQP OBJECTIVES

- To provide highly skilled, knowledgeable materials sampling and testing technicians
- To promote uniformity and consistency in testing
- To provide reciprocity for Qualified testing technicians between participating Agencies
- To create a harmonious working atmosphere between public and private employees based upon trust, open communication, and equality of Qualification

DEFINITION OF QUALIFICATION (QUALIFIED)

Within the context of this guide and program the term ***Qualification*** is defined as the end product for someone who has successfully met the requirements, as defined elsewhere in this guide, in one of the technical areas in which WAQTC offers such credentials.

These are solely credentials as defined by WAQTC and establishes that the recipient has demonstrated a required level of knowledge and is eligible to perform work on certain transportation projects under the jurisdiction of the member contracting Agencies or others that utilize this program. This definition does not in any way suggest an affiliation with any national or other organization that provides for similar credentials, or accredits organizations to provide for similar credentials, in any like areas to those that are included in the WAQTC program.

Who Must Be Qualified?

All persons responsible for sampling of materials and performing and reporting on tests, in any of the technical areas in which Qualifications are offered, as defined elsewhere, on any project under the jurisdiction of one of the WAQTC contracting Agencies must be Qualified, unless otherwise designated in the contract documents for that project. Qualification may be granted only after successfully completing the requirements of this program. "Grandfathering" or "exceptions" to the TTQP, other than as noted in the Concrete Qualification, will not be granted.

Qualification Reciprocity

Technicians must successfully complete all requirements of a Qualification area to be considered Qualified by the TTQP in that area. A person completing these requirements, and holding a valid Qualification, will then be considered Qualified to perform those specific sampling and testing functions, only, falling under that Qualification in any participating Agency of the WAQTC. Although the technician is considered Qualified in that area by all Agencies for the defined test methods, there may be additional Agency specific tests and contract administration or quality assurance procedures, not specifically covered in the TTQP Qualification, that the technician will be required by that Agency to show proficiency in. The technician should be aware that, non-WAQTC Agencies may or may not accept any of these Qualifications. Each individual should verify specific Agency requirements prior to seeking employment.

If an Agency does not require a technician to successfully complete the examination requirements for all test methods contained under a Qualification module, as defined in this manual, that person will not be considered Qualified under the TTQP in that module. A technician must successfully complete the additional exam requirements prior to obtaining WAQTC-wide Qualification. Any Qualification obtained in this manner will expire, on the last day of the month in which the initial exam portion was successfully completed, a maximum of five (5) years after that initial exam.

Disclaimers

Qualification of an individual by the TTQP indicates only that the individual has demonstrated a certain level of competence on a written and/or performance examination in a selected field of activity. Members of the WAQTC that are also contracting Agencies may require this Qualification of individuals performing activities specified in work contracts or other activities.
Each individual or organization utilizing Qualified individuals must make its own independent

judgment of the overall competence of Qualified individuals. The WAQTC specifically disclaims any responsibility for the actions, or the failure to act, of individuals who have been Qualified through the TTQP.

CANDIDATES WITH DISABILITIES

Persons with disabilities and those who have special needs should notify the TTQP representative at the time of registration so that appropriate accommodations can be made.

SAMPLING AND TESTING QUALIFICATIONS

Aggregate Testing Technician (AgTT)
Asphalt Testing Technician (AsTT)
Concrete Testing Technician (CTT)
Density Testing Technician (DTT)*
Embankment and Base Testing Technician (EBTT)*
UDOT Sampling and Reduction Technician (SRTT)
UDOT Sampling, Reduction and Density Testing Technician (SRDTT)
UDOT Laboratory Testing Technician (LbTT)
UDOT Superpave Mix Design and Analysis (SMD)
UDOT Concrete Strength Testing Technician (CSTT)

QUALIFICATION PROCESS

A technician may become Qualified by either of the following methods:

Method I

- Meet any applicable prerequisites for obtaining the Qualification.
- Forward the registration form, Rights and Responsibilities Agreement, documentation of applicable prerequisites, and any applicable fee to the appropriate Agency (according to that Agency's specific guidance) to secure a position in an upcoming course and examination.
- Attend the appropriate Qualification course in its entirety.
- Successfully pass the written and performance examinations.

*UDOT has combined these into one training session.

Method II

If a person is confident of their knowledge and experience in a Qualification subject area he/she may become Qualified in that area, without attending a Qualification course, upon successfully completing the written and performance examination requirements as defined under each Qualification section. This alternate method of obtaining Qualification is subject to the limitations set forth elsewhere in this document.

The Qualification process is:

- Meet applicable prerequisites for obtaining the Qualification.

- Forward the registration form, Rights and Responsibilities Agreement, documentation of applicable prerequisites, and any applicable fee to the appropriate Agency to secure a position in an upcoming examination.

- Successfully pass the written and performance examinations.

TTQP AGGREGATE QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Aggregate Qualification is designed for those individuals responsible for field sampling and testing of aggregate for bases, bituminous mixes, or Portland cement concrete. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Aggregate:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Aggregate: 80 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

TEST METHODS FOR AGGREGATE QUALIFICATION

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 2	Sampling of Aggregates	C	W, P*
T 248	Reducing Samples of Aggregate to Testing Size	C	W, P
T 27	Sieve Analysis of Fine and Coarse Aggregate	C	W, P
T 11	Materials Finer Than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing	C	W, P
T 255	Total Evaporable Moisture Content of Aggregate by Drying	C	W, P
T 176	Plastic Fines in Graded Aggregates and Soils By Use of the Sand Equivalent Test	C	W, P
TP 61	Determining the Percentage of Fracture in Coarse Aggregate	C	W, P
T 304†	Uncompacted Void Content of Fine Aggregate	C	W, P
T 84†	Specific Gravity of Fine Aggregate	C	W, P
T 85†	Specific Gravity of Coarse Aggregate	C	W, P

*The Examinee may either be asked to physically sample materials or only to explain the sampling process during this portion of the performance examination.

† UDOT additional qualification, available as a UDOT Rider at a pro-rated fee.

TTQP ASPHALT QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Asphalt Qualification is designed for those individuals responsible for field sampling and testing of Asphalt. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Asphalt:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Asphalt:

- Must hold an Approved Certification in Radiation Safety due to the operation of devices containing radioactive material.
- (A copy must be included with registration submittal.)
- Minimum 80 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

TEST METHODS FOR ASPHALT QUALIFICATION

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 168	Sampling Bituminous Paving Mixtures	C	W, P*
WAQTC TM 5	Reducing Samples of Hot Mix Asphalt to Testing Size	C	W, P
T 40	Sampling Bituminous Materials (methods 8 through 14)	C	W, P*
T 308	Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method	C	W, P
T 30	Mechanical Analysis of Extracted Aggregate	C	W, P
T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures	C	W, P
T 166/275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens/Paraffin-Coated Specimens **(This is a combined field operating procedure)**	C	W, P
T 329	Moisture Content of Hot Mix Asphalt (HMA) By Oven Method	C	W, P
WAQTC TM 8	In-Place Density of Bituminous Mixes Using the Nuclear Moisture-Density Gauge	C	W, P
T 312†	Preparing and Determining the Density of HMA Specimens by means of the Gyratory Compactor	C	W. P
UDOT MOI 8-984†	Sampling Methods	C	
UDOT MOI 8-985†	Sampling Reduction Methods	C	

* The Examinee may either be asked to physically sample materials or may only be asked to explain the sampling process during this portion of the performance examination.

† UDOT additional qualification, available as a UDOT Rider at a pro-rated fee.

CONCRETE QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Concrete Qualification is designed for those individuals responsible for field sampling and testing of Portland cement concrete. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Concrete:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations **OR**
- Hold a valid ACI Certification in "Concrete Field Testing Technician Grade 1"
  (Submit a copy of valid ACI Certification and Signed TTQP Rights and Responsibilities Agreement to obtain TTQP Certification)

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Concrete: 80 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

Valid TTQP Certificate in Concrete is required.

ACI Reciprocity Notification

- For individuals requesting to receive a WAQTC qualification in Concrete (ACI-CFT) through the ACI reciprocity clause it is recommended that a review of the testing standards listed on the following page occurs. The ACI certification process requires performing ASTM standard test methods. ASTM standards may or may not be the same as the AASHTO and WAQTC standard test methods required by this qualification.

  By signing the WAQTC Rights and Responsibilities Agreement form an individual pledges to follow the applicable AASHTO and WAQTC test methods when sampling or testing on jobsites requiring WAQTC qualifications.

TEST METHODS FOR CONCRETE QUALIFICATION

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
WAQTC TM 2	Sampling Freshly Mixed Concrete	C	W, P*
T 309	Temperature of Freshly Mixed Portland Cement Concrete	C	W, P
T 119	Slump of Hydraulic Cement Concrete	C	W, P
T 152	Air Content of Freshly Mixed Concrete by the Pressure Method	C	W, P
T 121	Mass per Cubic Meter (Cubic Foot), Yield, and Air Content (Gravimetric) of Concrete	C	W, P
T 23	Making and Curing Concrete Test Specimens in the Field	C	W, P

*The Examinee may either be asked to physically sample materials or may only be asked to explain the sampling process during this portion of the performance examination.

TTQP EMBANKMENT AND BASE QUALIFICATION PROCESS FOR MATERIALS TESTING TECHNICIANS

UDOT Combined Test Method: Embankment, Base and In-place Density

Embankment and Base Qualification is designed for those individuals responsible for field sampling and testing of soils and soil aggregate mixtures. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Embankment and Base:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Embankment and Base:

- Must hold an Approved Certification in Radiation Safety due to the operation of devices containing radioactive material.
- (A copy must be included with registration submittal.)
- 120 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

TEST METHODS FOR EMBANKMENT AND BASE QUALIFICATION
UDOT Combined Test Method: Embankment, Base and In-place Density

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 99	Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop	C	W, P*
T 180	Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop	C	W, P*
T 272	Family of Curves-One Point Method	C	W, P
T 224	Correction for Coarse Particles in the Soil Compaction Test	C	W, P†
T 217	Determination of Moisture in Soils by Means of Calcium Chloride Gas Pressure Moisture Tester	C	W, P†
T 255/265	Total Moisture Evaporable Content of Aggregate by Drying/Laboratory Determination of Moisture Content of Soils **(This is a combined field operating procedure)**	C	W, P
T 85	Specific Gravity and Absorption of Coarse Aggregate	C	W, P
T 89	Determining the Liquid Limit of Soils	C	W, P†
T 90	Determining the Plastic Limit and Plasticity Index of Soils	C	W, P†
T 310	In-Place Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods	C	W, P

Note: Course work will also include field use of an Alaska T-12, Washington 606, Idaho T-74, or Western Federal Lands Highway Division HRBB-319 (Humphrys) curve.

* Participating WAQTC members will require a written and performance examination on one of these two methods, which may require that a technician seeking employment in another Agency may have to show proficiency in a different method also.

† UDOT additional qualification.

TTQP IN-PLACE DENSITY QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS
UDOT Combined Test Method: Embankment, Base and In-place Density

In-Place Density Qualification is designed for those individuals responsible for field testing for In-Place Density on soils, soil aggregate mixtures, aggregate products, and bituminous mixes. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in In-Place Density:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in In-Place Density:

- Must hold an Approved Certification in Radiation Safety due to the operation of devices containing radioactive material.
  (A copy must be included with registration submittal.)
- 120 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

- If an applicant holds a current WAQTC Qualification in Asphalt and / or Embankment and Base they may not need this qualification.

TEST METHODS FOR IN-PLACE DENSITY QUALIFICATION
UDOT Combined Test Method: Embankment, Base and In-place Density

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 99	Moisture-Density Relations Using a 2.5 -kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop	C	
T 180	Moisture-Density Relations Using a 4.5 4-kg (10-lb) Rammer and a 457-mm (18-in.) Drop	C	
T 272	Family of Curves - One Point Method	C	W, P
T 224	Correction for Coarse Particles in the Soil Compaction Test	C	W
T 217	Determination of Moisture in Soils by Means of Calcium Chloride Gas Pressure Moisture Tester	C*	W, P**
T 255/T 265	Total Moisture Evaporable Content of Aggregate by Drying /Laboratory Determination of Moisture Content of Soils **(This is a combined field operating procedure)**	C	W, P**
T 85	Specific Gravity and Absorption of Coarse Aggregate	C	
T 89	Determining the Liquid Limit of Soils	C	
T 90	Determining the Plastic Limit and Plasticity Index of Soils	C	
T 310	In-Place Density and Moisture Content of Soil and Soil Aggregate by Nuclear Methods	C	W, P
T 209	Maximum Specific Gravity of Bituminous Paving Mixtures	C	
T 166/T 275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens/Paraffin-Coated Specimens	C	
WAQTC TM 8	In-Place Density of Bituminous Mixes Using the Nuclear Moisture-Density Gauge	C	W, P

Note: Course work will also include field use of an Alaska T 12, Washington 606, Idaho T 74, or Western Federal Lands Highway Division HRBB 319 (Humphrys) curve.

* The Instructor may demonstrate the procedure to the participants in the lab, and participants may or may not be required to practice the procedure in the lab.

** Agencies may choose to conduct a performance examination on either T 217 or T 255/T 265.

UDOT
TTQP SUPERPAVE MIX DESIGN AND ANALYSIS QUALIFICATION PROCESS FOR MATERIALS TESTING TECHNICIANS

Superpave Mix Design and Analysis Qualification is designed for those individuals responsible for testing and determining acceptability of Superpave Mix Designs. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Superpave Mix Design and Analysis:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for Qualification in Superpave Mix Design and Analysis:

- Current qualification in:
  Aggregate Testing
  Asphalt Testing
  (Qualification for each area must be submitted with the registration forms)

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

TEST METHODS FOR SUPERPAVE MIX DESIGN AND ANALYSIS QUALIFICATION

AASHTO/ ASTM	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
M 323	Superpave Volumetric Mix Design	C	W, P
R 35	Superpave Volumetric Mix Design	C	W, P
UDOT MOI 8-988 R 30	Guidelines for Laboratory Mixing of Hot-Mix Asphalt (HMA) and Mixture Conditioning of HMA	C	W
T 312	Preparing and Determining the Density of HMA Specimens by Means of the Gyratory Compactor	C	W
T 283	Resistance of Compacted Bituminous Mixtures to Moisture Induced Damage	C	W
T 324	Hamburg Wheel-Track Testing of Compacted Hot-Mix Asphalt	C	W
UDOT MOI 8-990	Method of Test for Hamburg Wheel-Track Testing of Compacted Hot-Mix Asphalt	C	
UDOT MOI 8-960	Guidelines for Superpave Volumetric Mix Design and Verification	C	

UDOT
TTQP LABORATORY TESTING TECHNICIAN QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Laboratory Testing Technician Qualification is designed for those individuals responsible for testing aggregate and concrete specimens, determining quality and acceptability. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Laboratory Test Technician:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Laboratory Test Technician:

- Current qualification in:
  Aggregate Testing
  Embankment, Base and In-Place Density Testing
  (Qualification for each area must be submitted with the registration forms)
- 120 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

TEST METHODS FOR LABORATORY TEST TECHNICIANS QUALIFICATION

AASHTO/ ASTM	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 21	Organic Impurities in Fine Aggregate for Concrete	C	W, P
T 104	Soundness of Aggregates by use of Sodium Sulfate or Magnesium Sulfate	C	W, P
T 96/C 535	Resistance of Degradation of Small-size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	C	W, P
T 112	Clay Lumps and Friable Particles	C	W, P
T 193	California Bearing Ratio	C	W
T 288	Determining Minimum Laboratory Soil Resistivity	C,	W, P
T 289	Determining pH of Soil for Use in Corrosion Testing	C	W, P
T 19	Bulk Density (“Unit Weight”) and voids in Aggregate	C	W, P
T 113	Lightweight Pieces in Aggregate	C	W

UDOT
TTQP CONCRETE STRENGTH TEST TECHNICIAN QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Concrete Strength Testing Technician Qualification is designed for those individuals responsible for testing strength of concrete specimens, determining quality and acceptability. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel.

The Process for Qualifying in Concrete Strength Test Technician:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations **OR**
- Hold a valid ACI Certification in "Concrete Strength Testing Technician"
  (Submit a copy of valid ACI Certification and Signed TTQP Rights and Responsibilities Agreement to obtain TTQP Certification)
- 120 hours training with a qualified technician

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for Qualification in Concrete Strength Test Technician:

- Current qualification in:

  Concrete Testing
  (Qualification for each area must be submitted with the registration forms)

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

Valid TTQP Certificate in Concrete is required.

TEST METHODS FOR CONCRETE STRENGTH TEST TECHNICIANS QUALIFICATION

AASHTO/ ASTM	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
	Mandatory Background Information	C	W
T 23	Making and Curing Concrete Test Specimens in the Field	C	
T 22	Compressive Strength of Cylindrical Concrete Specimens	C	W, P
T 97	Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)	C	W, P
T 231	Capping Cylindrical Concrete Specimens	C	W
C 1231	Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders	C	W

UDOT
TTQP SAMPLING AND REDUCTION QUALIFICATION PROCESS
FOR MATERIALS TESTING TECHNICIANS

Sampling and Reduction Qualification is designed for those individuals responsible for obtaining proper samples of soils, soil-aggregate mixtures, aggregate products and bituminous mixes. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel. Sampling and Reduction Qualification is not required for personnel having Aggregate and Asphalt Qualifications.

The Process for Qualifying in Sampling and Reduction:

- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

Sampling and Reduction Qualification and Sampling Reduction and Density Qualification are offered together, participant should register for the level of qualification desired.

TEST METHODS FOR SAMPLING AND REDUCTION QUALIFICATION

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 2	Sampling of Aggregates	C	W, P*
T 248	Reducing Samples of Aggregate to Testing Size	C	W, P
T 168	Sampling Bituminous Paving Mixtures	C	W, P*
T 40	Sampling Bituminous Materials	C	W, P*
WAQTC TM 5	Reducing Samples of Hot Mix Asphalt to Testing Size	C	W, P
UDOT MOI 8-984	Sampling Methods	C	
UDOT MOI 8-985	Sample Reduction Methods	C	

*The Examinee may either be asked to physically sample materials or may only be asked to explain the sampling process during this portion of the performance examination.

UDOT
TTQP SAMPLING, REDUCTION AND DENSITY QUALIFICATION PROCESS FOR MATERIALS TESTING TECHNICIANS

Sampling, Reduction and Density Qualification is designed for those individuals responsible for performing In-Place Density Test on soils, soil-aggregate mixtures, aggregate products and bituminous mixes and obtaining proper samples of such for further testing. Participants include contractor and supplier quality control personnel, consulting engineering and materials testing firm personnel, quality assurance technicians, and public agency personnel. Sampling, Reduction and Density Qualification is not required for personnel having Aggregate, Asphalt and Embankment and Base/In-place Density Qualifications.

The Process for Qualifying in Sampling, Reduction and Density:

- Meet the prerequisites. (see below)
- Pass the written and performance examinations.

Course Length: approximately 2 days
Course Size: 10 recommended

Prerequisites for being Qualified in Sampling, Reduction and Density Test Technician:

- Must hold an Approved Certification in Radiation Safety due to operation of devices containing radioactive material.
- 80 hours training with a qualified technician

Recommendation:

- The participant should exhibit basic mathematics and reading comprehension skills.

Sampling and Reduction Qualification and Sampling Reduction and Density Qualification are offered together, participant should register for the level of qualification desired.

TEST METHODS FOR SAMPLING, REDUCTION AND DENSITY QUALIFICATION

AASHTO/ WAQTC	PROCEDURE	TRAINING Classroom (C) Laboratory (L)	EXAM Written (W) Performance (P)
T 2	Sampling of Aggregates	C	W, P*
T 248	Reducing Samples of Aggregate to Testing Size	C	W, P
T 168	Sampling Bituminous Paving Mixtures	C	W, P*
T 40	Sampling Bituminous Materials	C	W, P*
WAQTC TM 5	Reducing Samples of Hot Mix Asphalt to Testing Size	C	W, P
T 310	In-Place Density of Embankment and Base Using the Nuclear Moisture-Density Gauge	C	W, P
WAQTC TM 8	In-Place Density of Bituminous Mixtures using the Nuclear Moisture-Content Gauge	C	W, P
UDOT MOI 8-984	Sampling Methods	C	
UDOT MOI 8-985	Sample Reduction Methods	C	

*The Examinee may either be asked to physically sample materials or may only be asked to explain the sampling process during this portion of the performance examination.

EXAMINATION ADMINISTRATION

The following criteria are common to the examination for each module.

- Written Examination
    a. Closed Book
    b. Five (5) questions minimum per test method including multiple choice, true or false, and calculations. Exams will be either Metric or English depending on agency standards.
    c. Written exam must be completed within the time limit designated by the Agency.
- Performance Examination
    a. Each participant will demonstrate proficiency in the designated test methods.
    b. Open procedure, but the Examinee **will not** have access to the performance exam checklist.
    c. Each procedure must be performed within the time limit set by the Agency for that test method.
    d. The Examinee may be asked to explain various steps to the procedure to reduce the full test time. All test method time limits set by the Agency will take into account the reduction of time due to accelerated steps.
    e. Each test method will have a performance exam checklist with a "P" or "F" checked by the Examiner.
- Passing Score - Written/Performance

    Written:
    a. Initial exam (first attempt): .An overall score of 70% with a minimum of 60% on any one test method.
    b) Re-exam (second attempt): An initial exam overall score below 70% will require a re-exam on all test methods.
    An initial exam score above 70% overall, but below 60% on one or more test methods, will require a re-exam on only those test methods. In the case of one test method comprising the re-exam, the examinee must receive a score of 70%. In the case of more than one test method comprising the re-exam, the examinee must receive an overall score of 70% with a minimum of 60% on any one test method.

    Performance:

    All performance checklists must have 100% of the blanks checked "P" and each test method must be performed within the designated time limit.
- Re-examination Policy - Written/Performance
    a. Anyone failing the written examination on the first attempt is required to retake the written examination at the scheduling convenience of the Agency, and pass, if Qualification by the TTQP is still desired.

b. Anyone failing a test method on the performance exam may repeat that trial during the day of the performance exam. Repeat trials will be allowed in not more than 50% of the total test methods in that performance exam. Failure of any one of the prescribed test methods after two trials will constitute failure of the whole performance exam. Anyone failing the performance examination on the first attempt is required to retake the performance examination at the scheduling convenience of the Agency, and pass, if Qualification by the TTQP is still desired.
c. Guidelines for individuals failing either examination the second time will be set by the qualifying agency. It is recommended that individuals attend the training course for that Qualification, if Qualification is still desired.

Additional examination guidance can be found in the Program Management section of the Administrative Manual or the RP&IH Handbook.

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WAQTC TRANSPORTATION TECHNICIAN QUALIFICATION PROGRAM (TTQP) REGISTRATION FORM

Name:	Employer:
Address:	Employer's Address:
Home Phone #:	Employer's Phone #:
e-mail address:	**Current TTQP Qualification #:**

Check one: Original Qualification ☐ Renewal of Qualification ☐

Which mailing address should we use? Home ☐ Employer ☐

Desired Qualifications (select only one Qualification area per registration form)

		Cost		Cost
☐ Aggregate Testing Technician (AgTT)	Course & Exam ☐	$300	Exam Only ☐	$150
☐ Asphalt Testing Technician (AsTT)	Course & Exam ☐	$300	Exam Only ☐	$150
☐ Concrete Testing Technician (CTT)	Course & Exam ☐	$300	Exam Only ☐	$150
☐ Embankment, Base & Density Testing Technician (EBTT) $150	☐	Course & Exam $300	☐	Exam Only
☐ Laboratory Testing Technician (LbTT)	Course & Exam ☐	$300	Exam Only ☐	$150
☐ Sampling and Reduction Testing Technician (SRTT)	Course & Exam ☐	$150	Exam Only ☐	$100
☐ Sampling, Reduction and Density Testing Technician (SRDTT)	Course & Exam ☐	$200	Exam Only ☐	$150
☐ Superpave Mix Design and Analysis (SMD)	Course & Exam ☐	$300	Exam Only ☐	$150
☐ Concrete Strength Testing Technician (CSTT)	Course & Exan ☐	$300	Exam Only ☐	$150

Choose a course date and location or an examination (only) date and location

First Choice		Second Choice	
Date	**Location**	**Date**	**Location**

Disabilities or special needs?

Technicians seeking Qualification in one of the designated specialties should consult the TTQP Registration, Policies & Information Handbook (RP&IH) for Qualification criteria, prerequisites, other policies and requirements, and general information, or call the number listed below. **Checks should be made to: Utah Department of Transportation. The submittal should be mailed to the address shown below and must be received there at least two (2) weeks before the start of the course or exam. The technician's full name, Qualification number, and Qualification information will be listed on the WAQTC Web page's Registry of Qualified Technicians upon successful completion of the Qualification requirements.**

Mail to: Utah Department of Transportation Attn: Troy Cook Box 148290 Salt Lake City UT 84414-8220 **Call:** Troy Cook (801) 965-4962 FAX: (801) 965-4101 Email: tcook@utah.gov	Passed Qualification Failed Qualification **WAQTC QUALIFICATION NUMBER** Signature, UQC Chair or Designee

TRANSPORTATION TECHNICIAN QUALIFICATION PROGRAM
RIGHTS AND RESPONSIBILITIES AGREEMENT

This document affirms that _____*(technician's name)*_____ , hereinafter the Technician, desires to be Qualified by the Transportation Technician Qualification Program (TTQP) as a _____(*name of Qualification desired*)_____

Qualification carries inherent rights and responsibilities. These rights include being exclusively sanctioned along with others so Qualified by TTQP to perform sampling, testing, and reporting of test results for quality control and quality assurance programs. These responsibilities include performing and reporting tests with the accuracy and precision expected of the Technician in accordance with the required test procedures. By signing this document the Technician agrees to abide by all of the terms of the TTQP included in the Registration, Policies, & Information Handbook and as set forth by the contracting Agency.

Findings of negligence or abuse of these rights and responsibilities will be penalized upon recommendation by the Agency Qualification Committee (AQC) and any appeal to the AQC Chair. Penalties, as prescribed herein, may be assessed for Technician abuse or negligence. Negligence is defined as unintentional deviations from approved procedures which may or may not cause erroneous results or TTQP Program. The first finding of negligence will result in a letter of reprimand being sent to both the employee and the employer, the second will result in a thirty (30) day suspension of Qualification, the third in a one hundred eighty (180) day suspension of Qualification, and the fourth in permanent suspension of Qualification. Abuse is defined as intentional deviations from approved procedures or TTQP Program. The first finding of abuse will result in a one (1) year suspension to permanent revocation of an individual's Qualification. Any subsequent finding of abuse will result in permanent revocation of Qualification. Revocation or suspension of one Qualification will be considered a revocation or suspension of all Qualifications held by the Technician. Permanent revocation of Qualification will result in that person being ineligible for any TTQP Qualification. The penalties are guidelines and the AQC may impose harsher penalties if warranted for findings of abuse or negligence.

The Technician should also be aware that both State and Federal laws may govern construction projects, including Title 18, United States Code, Section 1020, that in brief states that anyone making falsifications on Federal-aid projects,

"Shall be fined not more than $10,000 or imprisoned not more than five years, or both."

I,_____ , have read, understand, and agree to abide by the rights,
(print name)

responsibilities, and penalties associated with receipt of this **Qualification**.

_____
Signature

_____
Date

PROGRAM MANAGEMENT

QUALIFICATION REGISTRATION

To be eligible for Qualification each technician must complete a registration form and forward it to the appropriate Agency TTQP address along with a check for any applicable fee, a signed and dated Rights and Responsibilities Agreement, applicable documentation of prerequisites, or other Agency required information. These materials must be received by the Agency at least two (2) weeks prior to the beginning of the Qualification course or examination. An example registration form is provided in this document. Agencies may add their specific information to this form in the designated spaces and utilize it, or they may develop a registration form, as long as it reflects that it pertains to the TTQP.

OUT-OF-STATE APPLICANTS

The requirements for persons from non-WAQTC member States or Agencies wishing to obtain Qualifications under the TTQP will be the same as for those from member States or Agencies. Those holding valid Qualifications from other programs and showing proper documentation, may be extended Qualification by the TTQP if the Qualification is judged to offer equal credentials as the TTQP and is approved by the Executive Committee.

FEES FOR QUALIFICATION

Each Agency may assess applicant fees as deemed necessary.

RIGHTS AND RESPONSIBILITIES AGREEMENT

All Qualifications will be contingent upon the technician signing a Rights and Responsibilities Agreement. This agreement will inform the technicians of the rights and responsibilities along with the consequences of the violation of these responsibilities. The technician will submit a signed agreement with their registration for Qualification. A copy of the agreement is included in this manual. Agencies may add their name to this form and may change the wording from "Qualification" to "Certification" as needed. The form may need to be tailored to conform to legal requirement of the qualifying agency.

CANCELLATION POLICY

Each Agency should state a specific cancellation policy in the Registration, Policies, & Information Handbook. A minimum policy follows: Each Agency may designate a minimum class size for each course or examination.
If the minimum size is not reached, the course or examination may be canceled. Courses or

examinations may be canceled for other reasons not specifically stated herein. Every effort will be made to notify the applicants well in advance if a cancellation is necessary. If a course or examination is canceled, the applicant may either request refund of any fee, or ask that he/she be enrolled in the next available course or examination.

REFUND POLICY

Each Agency may establish its own refund policy for Qualification fees where applicable. A suggested guideline follows:

1. The registration form, Rights and Responsibilities Agreement, fee, and any other required documentation must be received at least two (2) weeks prior to the start of the course.

2. Cancellation by the candidate within seven (7) days (without the class position being filled) will result in 50% of the fees being refunded. If the class position can be filled, 85% of the fees will be refunded (15% will be retained for administrative costs).

3. Unforeseen emergency during the course or Qualification proceedings will result in no refund of fees but the candidate will be allowed to retake the course or Qualification examinations, whichever is applicable, at a later date with an additional fee of 15% of the course cost.

4. No refund of fees will be made for failure to successfully complete the examination portions of the Qualification proceedings.

EXAMINATION

As part of the Qualification process, each technician will be required to pass both written and performance examinations which are designed to demonstrate both a knowledge and understanding of the test procedures. Written exam Administrators and performance exam Examiners should thoroughly explain to the participants what the exams will entail and the examination rules prior to the beginning of the exams. It is envisioned that multiple examination stations will be required during the performance examination; therefore, there will be multiple Examiners required for the performance portion of the examination. Failure of either the written or performance portions of the Qualification will require re-examination and a passing grade in the exam(s) failed, if Qualification is still desired, subject to the criteria described herein.

Written Examination

The written examination will consist of multiple choice, some of which will require calculations, or true/false questions. All questions require detailed knowledge of the test method procedures and basic reading comprehension.
The examination is closed book which requires that no technical materials or notes are allowed in the room during the examination. Calculations may be required for some questions; therefore, a

battery-powered pocket calculator may be brought to the examination. Calculators may not be shared. The individual must bring No. 2 pencils and erasers and clean scratch paper if desired. All written exams will be administered within a specified time frame which will be consistent within each Agency. At the end of the designated period all exams and used scratch paper will be collected by the exam Administrator. Scratch paper will be destroyed. Exam scores are to remain confidential. The written exam material is not to be discussed with, or provided to, any unauthorized individual. The exam should be scored and the results given to the designated Agency person no later than the end of the first business day after the exam is given.

A participant will successfully pass the written examination by meeting the following criteria:

a. A minimum score of 70% on the entire written exam for that Qualification.
b. A minimum score of 60% on each segment (test method) of the written examination.

Performance Examination

The performance examination may be performed with the procedure open for reference; however, referral to the exam checklist, or any notes or other material reflecting the content of the checklist, by the examinee will not be permitted during the exam. Each procedure will be completed within the time limit designated by the Agency for that method. The participant is required to successfully perform all steps of the designated test procedures for the particular Qualification area, with the exception that an examinee may be asked to explain various steps to a procedure in order to reduce the total test time. All test method time limits set by the Agency will take into account the reduction of time due to accelerated steps. An individual may be required to verbally describe the procedures for sampling of a material, such as Sampling Freshly Mixed Concrete, if performance of the method is not practical or feasible.

Judgment will be based on the ability to correctly perform all required procedures for each of the methods based on criteria shown on the performance examination checklists (which are included in each Qualification subject area Instructor Guide and Participant Workbook at the end of each section). Omission of one or more of the prescribed procedures will constitute failure of that test method. The inability to complete the test method within the designated time limit will constitute failure of the method. The examinee may perform one repeat trial of a failed method, at the Examiner's convenience, on the day of the exam; however, repeat trials will be allowed in not more than 50% of the total test methods in that performance exam. The examinee may request that a different Examiner administer a repeat trial of a failed test method. Failure of any one of the prescribed test methods after two trials will constitute failure of the performance examination portion of the Qualification process. Scoring of the exam will be on a pass/fail basis.

The performance examination will occur in the direct presence of the Examiner. All steps of the method must be performed, except that certain steps may be accelerated when properly explained to the Examiner.

The Examiner may not respond to questions or assist in the performance of the method. Immediately after completion of the method, the Examiner will tell the individual if he/she has

passed or failed that trial. If a failure has occurred, the Examiner will denote which part of the method was performed or described incorrectly. The Examiner will not stop a trial when an error has occurred, nor will he/she in any way signify approval or disapproval. Any disputes will be referred immediately to and reconciled by the course or exam Administrator. The results of the performance examination, as well as all performance examination checklists, will be provided to the designated Agency person no later than the end of the first business day after the exam is given.

Re-examination

Re-examination for both the written and performance exams will be conducted according to the same criteria as the original examinations. The one exception is on the written examination. See pages 18 and 19 for detailed information. A participant may be eligible for re-examination subject to other restrictions outlined elsewhere in this manual. The applicant may either make individual arrangements with the Agency for re-examination or apply to take a scheduled exam, depending upon Agency preference or policy. Guidelines for individuals failing either examination the second time will be set by the qualifying agency. It is recommended that individuals attend the training course for that Qualification, if Qualification is still desired.

PARTICIPANT NOTIFICATION

Notification of each participant's successful or unsuccessful completion of the Qualification requirements, should be mailed by the Agency conducting the Qualification proceedings within ten (10) working days of the date of the completion of examination**.**

A letter, or other method selected by the Agency, may serve as Qualification verification for those technicians that are successful in completing the Qualification requirements. If an Agency elects to use a Qualification card, or similar method, to identify those individuals that have successfully completed a Qualification, the format and appearance should be coordinated with the other Agencies, and should reflect that it pertains to the WAQTC TTQP. If the participant is unsuccessful in completing the Qualification requirements, the procedure for re-examination should be explained, if applicable.

LENGTH OF TECHNICIAN QUALIFICATION

The length of time in which a technician may remain qualified in any qualification area will be set by the qualifying agency. This time period shall be on a three (3) or five (5) year re-qualification cycle.

The agency must apply the same re-qualification cycle for all qualifications. Individuals that are qualified by an agency using a five year re-qualification cycle may be required to demonstrate proficiency when requesting reciprocity with an agency using a three year re-qualification cycle. **Utah Department of Transportation has chosen the five year option. All qualifications, beginning January 3, 2006 will reflect the five year cycle. All qualifications obtained prior to January 3, 2006 will retain the original re-qualification date.**

QUALIFIED TECHNICIAN REGISTRY

Within 5 working days after completion of any Qualification proceeding, the Agency conducting the Qualification exams should log each participant that has successfully completed the Qualification requirements on the **Qualified Technician Registry** for that Agency which is linked to the WAQTC Web site. The required information to be logged in the appropriate field is:

- A unique Qualification number assigned from the following Agency allotments

Alaska	00,001 - 19,999	Montana	120,000 - 139,999
Idaho	20,000 - 39,999	Nevada	140,000 - 159,999
Oregon	40,000 - 59,999	Utah	160,000 - 179,999
Washington	60,000 - 79,999	Colorado	180,000 - 199,999
Arizona	80,000 - 99,999	Hawaii	200,000 - 219,999
	100,000 - 119,999	New Mexico	220,000 - 239,999

Note: The number assigned with the first Qualification will remain with that employee no matter if additional Qualifications may be attained through other WAQTC Agencies. Should a technician obtain a Qualification in a state other than the one designated by the assigned Qualification number, the Agency issuing the additional Qualification will notify the Agency where the Qualification number originated so that the Qualification may be properly registered.

- The successful participant's full name

- The area in which the Qualification is received designated by:

Aggregate	AgTT
Asphalt	AsTT
Concrete	CTT
In-Place Density	DTT
Embankment & Base	EBTT
Superpave Mix Design	SMD
Laboratory	LbTT
Concrete Strength	CSTT
Sampling and Reduction	SRTT
Sampling, Reduction, and Density	SRDTT

- The month and year of the Qualification expiration - (the last day of the month in which the initial exam portion of the Qualification was successfully completed, in the third (3) or fifth (5) year after that initial exam)

COURSE EVALUATIONS

Course evaluations will be obtained for each Qualification course administered by member Agencies. Instructors should stress the importance of thoughtful completion of these forms. The AQC in each participating Agency should review and compile these comments and provide suggestions to the QAC for consideration during their scheduled program meetings. An evaluation form is included in the Instructor Guide and Participant Workbook for each course.

REGISTRATION, POLICIES, & INFORMATION HANDBOOK

Guidance for technician registration in a course or exam, TTQP policies, and other information intended for the use of the technician is contained in the TTQP Registration, Policies & Information Handbook (RP&IH) which is a TTQP standardized document. This Handbook should be kept up to date by each Agency. Agency specific policies, information, or examination or training requirements, etc., as defined below and elsewhere in this manual, may be entered in this Handbook, to supplement the standard TTQP information, for reference by the technician or laboratory.

WAQTC WEB SITE (*WWW.WAQTC.ORG)*

The WAQTC Web site is intended to provide useful information both to the member Agencies, other Agencies, and the general public about the TTQP and other programs of the WAQTC. It is intended that information entered will be of a like appearance between Agencies so coordination will be required as new needs are identified. It is the responsibility of each Agency to keep their specific information up to date in accordance with the guidelines set forth in this manual. Suggestions for improvement to the Web site, or other facets of the program, may be provided to a member of the WAQTC or by the home page E-mail link.

QUALIFICATION RENEWAL POLICY

Qualification renewal is required to be completed by the last day of the month in which the initial exam portion of the Qualification was successfully completed. Depending on the qualifying agency this could be the third (3) or fifth (5) year after the initial exam. **Utah Department of Transportation has chosen the five year option. All qualifications, beginning January 3, 2006 will reflect the five year cycle. All qualifications obtained prior to January 3, 2006 will retain the original re-qualification date.** The technician is responsible for making arrangements for obtaining his/her applicable Qualification renewal and must do so before the expiration date of the Qualification. The procedures for Qualification renewal are the same as for the initial Qualification. Although renewal is the responsibility of the technician, an Agency may adopt other policies, such as notifying the participant prior to the expiration date, if desired. Interim or Qualification refresher courses may be offered; however, it is also the responsibility of the technician to stay abreast of changes to procedures and test methods.

Renewal of Qualification may be obtained in the following manner:

A technician may obtain renewal of Qualification by passing the written and performance exam, as applicable, required for that particular Qualification. The Agency may either require that the technician be responsible for scheduling his/her own written and/or performance examination, or the Agency may schedule specific times and locations in which this is accomplished. *Re-examination policies*, for those failing to pass a Qualification renewal on the first attempt, will be the same as for the original Qualifications.

REVOCATION OR SUSPENSION OR DENIAL OF QUALIFICATION

Qualifications awarded by the TTQP may be revoked at any time by the Agency Qualification Committee (AQC) for just cause. Proposed revocations or denial will be sent to the individual in writing along with the individual's right to appeal the proposed revocation or denial. A proposed revocation is effective upon receipt by the technician and will be affirmed, modified, or vacated following any appeal. The reasons that technicians will be subject to revocation, suspension or denial of their Qualifications are *negligence* or *abuse* of their responsibilities. Agencies may Disqualify technicians for other reasons of just cause which may or may not be specifically defined herein following the due process procedures outlined herein.

Negligence is defined as unintentional deviations from approved procedures which may or may not cause erroneous results or the TTQP Program. The following penalties are guidelines for findings of *negligence*: The first finding of *negligence* will result in a letter of reprimand being sent to both the employee and the employer, the second will result in a thirty (30) day suspension of Qualification, third in a one hundred eighty (180) day suspension of Qualification, and the fourth in permanent revocation of the Qualification. The AQC may deviate from these penalty guidelines if warranted.

Abuse is defined as intentional deviations from approved procedures or the TTQP Program. The following penalties are guidelines for findings of *abuse*: The first finding of *abuse* will result in a one (1) year suspension to permanent revocation of an individual's Qualification. Any subsequent finding of *abuse* will result in that person being ineligible for any future type of TTQP Qualification. The AQC may deviate from these penalty guidelines if warranted.

Revocations or suspensions for *abuse* or *negligence* in one Qualification area will be considered revocations or suspensions in all Qualifications held by the technician. Such revocations or suspensions will be in effect in all member Agencies of the WAQTC.

It should be noted that should a technician fail to successfully complete a Qualification renewal in a specialty area, that technician will be considered Disqualified in that area, only, until the requirements for Qualification renewal have been successfully met, subject to the limitations set forth in this document.

Allegations of *negligence* or *abuse* will be made to the AQC in writing. The allegations will contain the name, address, and signature of the individual(s) making the allegation. The allegations will be investigated by the AQC. The accused and the individual(s) making the allegation will be given the

opportunity to appear before the AQC. All involved parties will be notified in writing of the findings by the AQC. Any warranted penalties will be imposed in accordance with guidance contained herein. Decisions regarding allegations of *negligence* or *abuse* may be appealed in writing to the AQC Chair who will independently consider such written appeals but may rely on the advice and counsel of the AQC and take such action as he/she considers appropriate.

UDOT REVOCATION, SUSPENSION OR DENIAL OF QUALIFICATION

The Utah Department of Transportation (UDOT) Transportation Technician Qualification Program (TTQP) is intended to assure qualified personnel performing all materials testing on UDOT construction projects. Overall guidelines for qualification and disqualification have been adopted from the WAQTC Administrative manual.

The UDOT Qualification Committee (UQC) of the TTQP may revoke Qualifications it has awarded at any time for just cause. Revocation or suspension in one Qualification area will be considered revocation or suspension in all Qualification areas and will be in effect in all member Agencies of the WAQTC.

The process for revocation, suspension or denial starts with a written complaint to the UQC chairman. This document must, at minimum contain: technicians involved, date of the incident, accounting of the incident, name and contact information of individual submitting the request. The UQC reserves the right to start an investigation based on other information, if necessary.

Upon receipt of the complaint the UQC chairman will contact the individual(s) submitting the information. The chairman will determine if the individual would be willing to address the committee and answer any pertinent questions. Documentation submitted for UQC review is otherwise confidential.

The UQC will review the documentation/information within 30 days to determine whether further investigation is required. If so, the UQC will assign an investigator to perform the investigation. The UQC will review the information obtained through the investigation and may conduct additional interviews. The technician involved will be notified of the UQC's findings. The technician shall have 15 working days to respond, in writing. At any point in the process the UQC may determine, due to insufficient evidence, to discontinue the process.

> The UQC will then determine whether the violation falls under the definition of *Negligence* or *Abuse*.
>
> *Negligence* is defined as unintentional deviations from approved procedures or the unintentional failure to follow the requirements of the TTQP Program.
>
> *Abuse* is defined as intentional deviations from approved procedures or the intentional failure to follow the requirements of the TTQP Program.
>
> The appropriate process will be followed upon determination of the category of the violation.

Process for *Negligence*:

Negligence should be resolved in a positive fashion that promotes learning and increased understanding. The complaint process tracks technicians who have repeated incidents of *negligence*. This process will also allow a means of tracking common problems and issues.

A single incident of *negligence* may be resolved through intervention by the Region Independent Assurance Inspector (IAI). The IAI will supply clarification to the technician on proper sampling and testing techniques per the Quality Assurance Manual. Documentation of each incident shall be sent to the UQC. The UQC will maintain records of each incident. If only one report, of a minor nature, is received in a one-year period, no further action may be taken. However, if it is determined that the *negligence* is significant the requirements under "second incident" will be followed.

If a second incidence of *negligence* is reported within a one-year period, the UQC will require the technician and his/her employer develop a corrective action plan. The UQC will notify all the Region IAI's. This notification is intended to make the IAI's aware of the problems being encountered.

If a third incident of *negligence* is reported within a two-year period, the technician and his/her employer will receive notice of a minimum thirty-day suspension. The technician and his/her employer will be responsible for providing a plan to correct the deficiencies to ensure no further incidents occur.

Another reported and verified incidence of *negligence*, within one year of suspension, shall result in a minimum 180-day suspension of the technician's qualification. The UQC may require the technician to attend additional training and re-qualify before reinstatement.

Any further incidents of *negligence* could result in permanent revocation.

The UQC could at any point re-classify repeated instances of *negligence,* as *abuse*. If this occurs, the issue would be dealt with through the process for *abuse*.

Process for *Abuse*:

The UQC will determine the severity of the *abuse*.

The first finding of abuse will result in a one-year suspension to permanent revocation of an individual's qualification. Any subsequent finding of abuse will result in permanent revocation of Qualification.

Revocations or suspensions for *abuse or negligence* in one Qualification area will be considered revocations or suspensions in all Qualifications held by the technician. Such revocations or suspensions will be in effect in all member Agencies of the WAQTC.

Revocations, suspensions, or denials will be sent to the individual in writing along with the individual's right to appeal. A proposed revocation or suspension is effective upon receipt by the technician and will be affirmed, modified, or vacated following any appeal.

The UQC should also be aware that both State and Federal laws may govern construction projects, including Title 18, United States Code, Section 1020, that in brief states that anyone making falsifications on Federal-aid projects: "Shall be fined not more than $10,000 or imprisoned not more than five years, or both."

The UDOT Qualification Committee Members:

Engineer for Materials
Quality Assurance Engineer
Region Independent Assurance Inspector
Region Independent Assurance Inspector
TTQP Coordinator

Committee membership to rotate among Region IAI's

Notification of Qualification Revocation or Suspension

Each Agency may notify the other members of the WAQTC, or other participants in the TTQP, of anyone having a Qualification revoked or suspended. The responsible Agency will remove the Qualification expiration date, for all applicable Qualifications, from the Qualified Technician Registry immediately upon the revocation or suspension of the Qualification(s) as verification to other Agencies of such action.

APPENDIX A

BYLAWS

OF

WESTERN ALLIANCE FOR QUALITY TRANSPORTATION CONSTRUCTION (WAQTC)

ARTICLE ONE

NAME, PURPOSE, & BENEFITS

The name of this organization is the Western Alliance for Quality Transportation Construction (WAQTC). Participation in this organization is voluntary; however, the membership recognizes the advantages of a unified effort leading to significant accomplishments.

WAQTC is focused in three main areas; standardizing test methods (WAQTC, AASHTO, & ASTM), accreditation of sampler / testers through the Transportation Technician Qualification Program (TTQP), and working together on national programs of significance including research, training, and technology deployment.

The organization's purpose is displayed by the following mission statement.

Provide leadership in the pursuit of continuously improving quality in transportation construction.

Through our partnership, we will:

- **promote an atmosphere of trust, cooperation, and communication between government agencies and the private sector**
- **respond in a unified and consistent manner to identified quality improvement needs and new technologies that impact the products that we provide**
- **provide a forum to promote uniform test standards**
- **provide highly skilled, knowledgeable materials sampling and testing technicians**
- **provide reciprocity for Qualified testing technicians between accredited Agencies**

Agencies with membership in the WAQTC have received large cost savings in the development and maintenance of the TTQP training materials. This cost savings is accomplished through a sharing of personnel, while reducing materials duplication.

Partnering that takes place at both the executive and technical levels supplies each agency with needed data exchanges and valuable feed back of agency program management.

In today's environment of doing more with less and with the loss of knowledge through retirement the sharing of technical expertise is critical.

With a limited work force, more requirements have been added to the contracting community. By having regional programs the contractor has a savings in both time and money when working with multiple agencies.

ARTICLE TWO

ORGANIZATIONAL STRUCTURE

- Executive Committee
    - Contributing Member
        - Accredited Contributing Members
    - Advisory member
    - Guest
- Transportation Qualification Program (TTQP) Committees
    - Qualification Advisory Committee (QAC)
    - Agency Qualification Committee (AQC)

ARTICLE THREE

EXECUTIVE COMMITTEE

Section 1. Structure. This committee is responsible for the mission, objectives, structure, policy decisions, the direction of the WAQTC, and other programs as may be undertaken in the future.

The committee is broken into two distinct membership groups: contributing members, with the subgroup of accredited contributing members; and advisory members. Membership will be comprised of at least one representative from a member organization. All members will have the responsibility of involving themselves in the operation and direction of the organization. Only in areas where consensus cannot be reached and a vote is required will the added burden of voting fall on contributing members.

Agencies that have agreed to follow the standards of the TTQP accreditation program will have the status of Accredited Contributing Membership on the Executive Committee.

Additional members such as suppliers, producers, the construction industry, consultants, academia, or FHWA Division office staff may serve as advisory members.

Section 2. Increase or Decrease in the Committee. A simple majority of the Committee membership may increase or decrease the membership at any meeting of the Committee.

Section 3. Term of Membership. Members may participate on the Committee for whatever period is designated by their Agency, or dictated by job function or business requirements. For the sake of uniformity and mission accomplishment, it will be expected that only those that can serve for longer than one year will be appointed. When a member leaves the Committee, the member Agency will appoint a replacement, either temporary or permanent, within two weeks.

Section 4. Meetings. The Committee will meet at least once a year at a location as agreed to by a majority of the Committee or required by the business at hand. Other meetings may be held as required to fulfill the mission, administer a task, or at the request of any Committee member. Business may also be conducted through E-mail, conference or video calls, or other such means agreed to by the participant Agencies.

Section 5. Subcommittees. The Committee may appoint subcommittees which will have and exercise such powers that the Committee vests in them to accomplish an assignment. As noted previously, non-Agency parties may be asked to serve on these subcommittees in an advisory capacity. A majority of any such subcommittee may fix the time and place of its meetings and approve any action as the act of the subcommittee, if approved by the Committee to do so. Any subcommittee, appointed by or acting under the Committee, may develop its own general operating rules or procedures as required to accomplish their task as long as they are in harmony with the mission of the WAQTC.

Section 6. Quorum and Voting. It is the goal of this organization that all decisions are reached by a consensus of the members. At such time that the membership decides that a vote of the membership is appropriate**,** the following criteria will apply**.** A majority of the contributing members of the Committee or any subcommittee, acting at a meeting duly assembled, will constitute a quorum for the transaction of business. Each contributing member Agency will have one vote irrespective of the number of members it has on the Committee or any subcommittee, except the FHWA members who will serve as ex officio and will not take part in voting. Only those members on the Executive Committee recognized as Accredited Contributing Members shall have a single vote on all operational matters of the TTQP.

If a member of the Committee, or any subcommittee, cannot be present for a meeting, that Agency may appoint a replacement provided that the replacement has the authority to vote the Agency's position. When less than the total WAQTC Agency membership elects to enter into a project agreement in pursuit of an outcome that supports the mission, only those participating members will have voting rights concerning that particular project. The input of the non-participatory members will be considered in all decisions**.**

Section 7. Goals and Action Plans. The goals, and associated action plans, of the WAQTC may be altered at any meeting provided that all Agencies have been given the opportunity for input and have

been apprised that it is the intent of the Committee to alter these documents at such a meeting.

ARTICLE FOUR

OFFICERS

Section 1. General. Officers of the WAQTC will be elected from the membership of the Committee. There will be no designated term of office, but for consistency and mission accomplishment it is expected that they will serve for a period of not less than one year. Other subcommittees, appointed by the Committee or acting under the Committee, may appoint the number and type of officers as required to accomplish their assigned or designated task. It is agreed that all member Agencies will share equally in these duties.

Section 2. Chairman. The Committee may elect a Chairman. The Chairman may have such additional powers and responsibilities as may from time to time be vested in him/her by the Committee. In general, the Chairman will be responsible for the continued focus on the accomplishment of the mission, retaining participation of all Agencies, and will take the lead in matters of major decision.

Section 3. Coordinator. The Coordinator will be elected from the Committee membership and will be responsible for such actions, as meeting coordination, preparing agendas, the smooth operation of meetings and successful conduction of business, and such other responsibilities as directed by the Chairman.

Section 4. Recorder. The Recorder will be elected from the Committee membership and will be responsible for recording the major points, decisions, and action items during Committee meetings, distributing these to members, and accumulating and maintaining all such notes, or related materials, for future reference.

Section 5. Resignation. Any officer of the Committee may resign at any time provided that two weeks notice is given. A replacement may be elected, or the Chairman may appoint a temporary or permanent replacement.

ARTICLE FIVE

ADMINISTRATIVE FUNCTIONS

Section 1. Administration of Tasks. It is agreed that each member Agency will share in the various administrative duties or committee tasks that are required in the support of the mission of the WAQTC.

Section 2. Funding. The entire membership, or division thereof wishing to participate, may enter into project agreements in support of the mission of the WAQTC. Participation in such projects is

voluntary taking into consideration such factors as return on investment**.**
Funding for projects, or other undertakings that support the mission, will be on a basis as agreed to by the member Agencies participating in that project. Business will be conducted through whatever mechanism is most advantageous such as: pooled fund studies, task reimbursement, or other inter-Agency agreements. The appropriate agreement will be drawn for the task at hand. This document will lay out the reason for the agreement and desired outcome, the projected cost, the amounts that each Agency will contribute and in what form, and the responsibilities and expectations of each party to the agreement**.**

ARTICLE SIX

EMBLEM

The emblem of the organization will be diamond shaped, bearing the inscription WESTERN ALLIANCE FOR QUALITY TRANSPORTATION CONSTRUCTION (WAQTC), and having an illustration of mountains bordered by graphical designs. The emblem may be placed on all products that result from the efforts of the WAQTC or that fall under its leadership.

ARTICLE SEVEN

CHANGES TO BYLAWS

These bylaws may be altered, amended, or repealed and new bylaws adopted at any meeting of the Committee. Furthermore, all Agencies must have been made aware of the intended change and given the opportunity to comment or be represented at that meeting.

APPENDIX B

OPERATIONAL AGREEMENT

WAQTC TRANSPORTATION TECHNICIAN QUALIFICATION PROGRAM AND THE QUALIFICATION ADVISORY COMMITTEE

Background. The Transportation Technician Qualification Program (TTQP) is a combined effort of the western states of Alaska, Colorado, Hawaii, Idaho, Montana, New Mexico, Oregon, Utah, and Washington. The TTQP is under the leadership of the Western Alliance for Quality Transportation Construction (WAQTC). The goal of the TTQP is to provide qualified materials testing technicians and uniformity and consistency in field sampling and resting procedures in order to improve the quality of the products in the following, initial, areas: Aggregate, Asphalt, Concrete, Embankment and Base, and In-Place Density. Upon successful completion of the requirements, a participant will be considered a Qualified Materials Testing Technician. In the pursuit of quality it is agreed the WAQTC may ask that qualification requirements be developed for other areas or other quality improvement tasks be provided in the future.

Administration. Guidance on the day-to-day administration of the TTQP is contained in the WAQTC Administrative Manual. For the sake of continued reciprocity, uniformity, consistency, and the integrity of the program, all participating Agencies agreed to conduct the program in accordance with the direction provided in this manual.

Name and Membership. The TTQP will have an oversight group referred to as the Qualification Advisory Committee (QAC). The QAC will consist of at least one representative each form the member Agencies of the WAQTC, who possesses knowledge on the materials field or other such areas that WAQTC feels will benefit the QAC. A cross section of suppliers, producers, the construction industry, consultants, academia, or FHWA Division office personnel may be asked to take part on an advisory basis.

The QAC will operate in conformance with the bylaws of the WAQTC and may elect officers or develop general tasks or operating procedures as needed to perform their function.

Requirements and Authority. The principal task of the QAC is to provide oversight of the TTQP. The QAC will act in an advisory capacity to the WAQTC Executive Committee and will carry out the tasks as assigned by the Executive Committee. The QAC will meet yearly, or at any other time as required, at a location to be agreed upon by the members, either in person, by conference or video call, or other suitable means of conducting business. All recommendations of the QAC will require approval of the Executive Committee. The QAC will review the TTQP, and all comments form that year's participants as compiled by member Agencies, and determine any changes, deletions, or improvements that are needed in the program and in the instructional materials. The QAC will prepare a draft(s), if required, of the intended changes to the program and present it to the Executive Committee for approval. Upon approval, the QAC will follow the guidelines for incorporation of these changes into the program as defined in the WAQTC Administrative Manual. The QAC will also make recommendations on additional qualifications or related undertakings that would help to accomplish the WAQTC mission. As part of their oversight duties, either they, a subcommittee, or agent appointed by them, will review the administration of the TTQP in each member Agency in order to maintains the integrity of the program and the basis for technician reciprocity and assure conformance to the process. A review will be conducted after the first year of operation and at a minimum every three years there after. The results of the findings will be reported to the WAQTC Executive Committee along with recommendations.

Program Revisions. The QAC will meet by August 30 of each year, or other such time as approved by the Executive Committee, for the purpose of making program revisions pr updates. Proposed changes will be drafted and those approved will be incorporated into the TTQP no later than October 15 of the year in which the changes were adopted.

Expenses, Funding, and Responsibilities. Member Agencies agree to participate in any oversight, review, development, or administrative requirements, except as defined elsewhere in this section, The Agencies agree that participation in the normal business of the TTQP and the duties required of the QAC as an oversight group will be subsidiary to each Agency's normal operating budget. Funding for yearly operating expenses of the TTQP, if required, such as updates or additions to master copies of program products and materials, or to accomplish other essential tasks, considered beyond the basic oversight function of the QAC, will be shared among the WAQTC members, or other such nonmember Agencies, that utilize the products and materials. Each member, or nonmember, will be solely responsible for the cost of implementing such updates, changes, or additions within their respective agencies. If participating Agencies elect to collaborate in order to obtain more cost effective pricing for the services required to effect program changes to individual Agency products or materials, the cost will be prorated among the Agencies in accordance with the respective services requested by each. Purpose, cost, and responsibilities will be defined by written agreement.